REMARKS

The Applicants request reconsideration of the rejection.

Claims 1-20 remain pending.

The Applicants filed a certified copy of the priority application, JP 2004-026356, on January 23, 2007. The Applicants request that the Examiner acknowledge receipt of the priority document in the next Patent Office communication.

Claims 1-3 stand rejected under 35 U.S.C. §102(e) as being anticipated by Duprey et al., U.S. Patent No. 6,671,705 (Duprey). The Applicants traverse as follows.

The Office Action identifies Duprey's master storage unit 130 as corresponding to the claimed first storage system, and Duprey's slave storage units 140 as corresponding to the claimed second storage system. In accordance with this asserted association, the rejection finds that Duprey's master storage unit 130 processes an I/O request from host computer 110, and as a result of I/O processing of a slave storage unit 140, transmits updated data. The rejection refers to col. 4, lines 27-36 and lines 58-61, and to col. 14, lines 45-58.

The former passage of column 4, however, simply discloses that the master storage unit 130 receives a write request from the host 110 and stores a write entry in a write intent log. The write entry includes information that identifies a portion of a mirror image to be affected by a write operation as well as, in the case of asynchronous mirroring, the actual data to be written into the mirror image. The latter passage of column 4 discloses that once the master storage unit 130 has stored a write entry in the write intent log, the master storage unit 130 proceeds to update the master image and the slave image or images based upon the write

update the master image and the slave image or images based upon the write request.

Further, the passage asserted from column 14 states that, in order to synchronize a slave image, the administrator instructs the master storage unit 130 to synchronize the slave image in the slave storage unit 140. The master storage unit performs a block-by-block copy of the master image to the slave image, which can be done while the mirror is in the ACTIVE state 404 or in the INACTIVE state 402. Any incoming write requests that are received by the master storage unit 130 during resynchronization of the slave image are forwarded to the slave storage unit 140 if and only if the write request is directed to a portion of the image that has already been written in the slave. A throttling mechanism is used to pace the synchronization operation in order to prevent the synchronization operation from overloading the communication links between storage units.

Thus, none of the passages asserted in the rejection teaches that the master storage unit 130 processes an I/O request from the host, and as a result of I/O processing of the slave storage unit 140, transmits updated data. Duprey simply discloses the block-by-block copy of the master image to the slave image, without reference to handling I/O requests from the host in dependence on a result of I/O processing of the slave storage unit.

Note that, if the host 110 of Duprey sends subsequent (different) data to the same address in the storage system, the master storage unit 130 copies the former update data and then overwrites with the subsequent update data in the master image and in the slave image. Further, col. 16, lines 26-31 note that a write entry is considered to be needed if the remote mirroring logic is still in the process of updating one or more mirror images based upon a corresponding write request, but

is considered to be unneeded if the remote mirroring logic has updated all mirror images based upon the corresponding write request. Write entries determined to be unneeded are removed from the write intent log. Col. 16, lines 23-26.

Therefore, in view of these passages, one sees that Duprey's master storage unit 130 cannot restore the former update data from the same address at which subsequent update data has been overwritten. On the other hand, the invention claimed in the present claim 1 requires the host and the second storage system to both retain an identifier corresponding to a command for settling a state of an application to the first storage system as data, and to relate the identifier to log data whereby the host designates the identifier at any given time to thereby restore data at any given time by the second storage system. Col. 19, line 58 – col. 20, line 5 of Duprey simply do not suggest this feature of the invention, disclosing only that a slave image can be resynchronized to the master image following a failure by re-synchronizing only those portions of the slave image that may be unsynchronized as indicated by the write intent log.

The Applicants note that claim 1 has been amended to provide added clarity, now reciting that, as a result of I/O processing of the second storage system, the first storage system transmits updated data according to the I/O request from the host.

The Applicants thank the Examiner for the indication of allowable subject matter in claims 7-20. Claims 4-6 have been amended into independent form in accordance with the indication of allowable subject matter. However, claims 10 and 11 have not been rewritten in this manner, being that these two claims are already dependent from allowed claims 7 and 8 and thus do not require rewriting into independent form to be allowable.